

MCESD/AAI Air Quality Seminar
Air Quality Permits and Rules in Maricopa County --
What You Need To Know
June 19, 2001



AGENDA

MCESD/AAI Air Quality Seminar

Air Quality Permits and Rules in Maricopa County -- What You Need To Know

June 19, 2001

- | | | |
|---------------------|---|---|
| 8:30 -9:05 | An overview of the improvements in air quality permits, confidentiality procedures and regulatory administrative procedures | Steven Peplau |
| 9:05 -9:30 | How the County issued seven PSD permits for seven new power plants in one year | Robert Arpino |
| 9:30 -10:15 | What happens if the power goes out this summer - - regulatory and practical issues | Kevin Nielsen Prabhat Bhargava |
| 10:15 -10:30 | Break | |

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MCESD/AAI Air Quality Seminar

Air Quality Permits and Rules in Maricopa County -- What You Need To Know

June 19, 2001

| | | |
|--------------|---|--|
| 10:30 -10:50 | The emissions inventory process - - Why the data is requested and how it is used | Jo Crumbaker |
| 10:50 -11:30 | Changes in the County's air quality program that will affect you <ul style="list-style-type: none">•Development of uniform permit conditions for the semiconductor industry•Development of uniform permit conditions for wood furniture manufacturers•Development of combustion equipment rules | Karen Silberman Kate Stockwell Renee Kongshaug |
| 1:30 - 11:45 | The U.S.Supreme Court upholds the eight-hour ozone standard - - so what? | Roger Ferland |
| 1:45 - Noon | A status report on regulatory reform under Senate Bill 1480 | David Kimball |
| Noon | Lunch | |
| 1:00 | Luncheon address by Jack Broadbent, Director, Air Division, EPA Region 9 | |

**An overview of the improvements in air quality
permits, confidentiality procedures and
regulatory administrative procedures**

Steve Peplau



Human Resources and Organizational Structure SC

Training

- **Joint Training Committee – AAI\MCESD**
 - ◆ **Technical Training – Motorola University**
 - ◆ **Environmental Management Systems**
 - ◆ **Mentoring**
- **Management Study**
 - ◆ **Customer Service**
 - ◆ **Market Study for Payscales**
 - ◆ **Career Track**

MCESD Organizational Structure

- **Create an Air Division**
- **Consistency and Readability of Rules**
- **Guidance Documents**
- **Rule Clarification Committee**
- **“Good Actor” Policy**

Staffing

- **Automate permit review**
- **Increase Engineering staff**

Management of Facility Changes SC

Procedure for Changes at Non-Title V Sources

- **Rule 100 and 220**
- **Rule 201 - Emission Cap**

Technical Permits I SC

General Permits

- **Gas Dispensing Stations** **Fuel Burning**
- **Dry Cleaners** **Surface Coating**
- **Automotive Refinishing** **Printing(near)**

Permit Thresholds

- **Insignificant and Trivial Activities**
- **Portable Sources\Non-Road Engines**

Technical Permits I SC

Potential to Emit Guidance

- **Inherent Limitations**
- **Synthetic Minor Guidance**

Streamlined Permits

- **Rules with Emission Activities**
- **Registration Process**

Technical Permits II SC

Application Form & Instructions

- **Non-Title V Permit Application Form**

Applicable Requirements

- **Revise Rule 220**
- **Create list of Sources of Applicable Requirements for Title V**
- **Create a Source Category Specific List of Applicable Req.**

Accelerated Permitting

- **New Process**

Research and Development Facilities

- **EPA White Paper**

PERMIT IMPROVEMENT PROJECT

Goals

- 1. Permits should establish clear, understandable requirements**
- 2. Permits should only contain conditions that are authorized by law and enforceable**
 - Describe methods by which compliance can be verified**
 - List authorizing statute or rule**

PERMIT IMPROVEMENT PROJECT

Goals cont.

- 3. Interpretation of permits must be predictable and consistent**
 - Must have a level playing field in a competitive market place**
 - Companies must be able to plan for compliance in advance**
- 4. Information that is legitimately confidential must be protected from disclosure**

Mechanisms to Achieve the Goals

- **Permit Package**
- **Determine Applicable Requirements**
- **Determine Regulated Pollutants**
- **Establishing “Practically Enforceable” Permit Conditions**
- **Methods of Demonstrating Compliance**
- **Indirect Compliance Measurements**
- **Production Limits**

**How the County issued seven PSD permits for
seven new power plants in one year**

Robert Arpino



How the County Issued Seven NSR & PSD Permits for New Power Plants in One Year

Background

**Never Issued NSR or PSD Before
Continuing Challenges Retaining/Hiring
Personnel**

The Challenges

- **Learning Curve**
- **Resources and Expertise**
- **Number of Applications**
- **Time Frames Desired for Processing**

How We Met the Challenge

- **Accelerated Permit Processing**
- **Consultants**
- **Coordination and Assistance from ADEQ**
- **Weekly Phone Calls**
- **Development of Procedures and Guidelines**

How Are We Doing?

- **Issued Seven Permits**
- **EAB Dismissed One Challenge**
- **EPA uses Some Conditions as Good Examples**

Conclusion

- **Issued Permits in Time**
- **Apply Lessons Learned to Other Permit Situations**

New Powerplants Projects Proposed for Maricopa County as of May 31, 2001

| | | | Estimated Facility Emissions (TPY) | | | | |
|---------------------------------|------------|-----------------|------------------------------------|------|------|-------|-----|
| Name | Permitted? | Power Output MW | NOx | CO | VOC | PM-10 | SOx |
| APS West Phx Expansion | Y | 660 | 405 | 184 | 56 | 108 | 16 |
| Duke Energy | Y | 580 | 222 | 675 | 120 | 272 | 42 |
| Mesquite Energy (Sempra) | Y | 1300 | 369 | 359 | 259 | 540 | 35 |
| RedHawk (Pinnacle West) | Y | 2120 | 1452 | 3799 | 242 | 733 | 39 |
| Harquahala (PG&E) | Y | 1060 | 324 | 576 | 102 | 300 | 69 |
| SRP Kyrene Expansion * | Y | 275 | 141 | 156 | 26 | 67 | 16 |
| Panda Energy | Y | 2300 | 907 | 440 | 214 | 412 | 96 |
| SRP Santan Expansion ** | N | 825 | 276 | 424 | 77 | 187 | 48 |
| Gila Bend Power Partners (PDEI) | N | 845 | 325 | 186 | 66 | 281 | 58 |
| Totals | ----- | 9965 | 4421 | 6799 | 1162 | 2900 | 419 |

Estimates for permitted facilities are based on current permit limits except where indicated.

* Includes emissions from new K-7 Unit and existing units K1- K6 operating at 2%

** Estimated emissions based on tripling the emissions from new K7 unit at Kyrene
(does not include netting reductions)

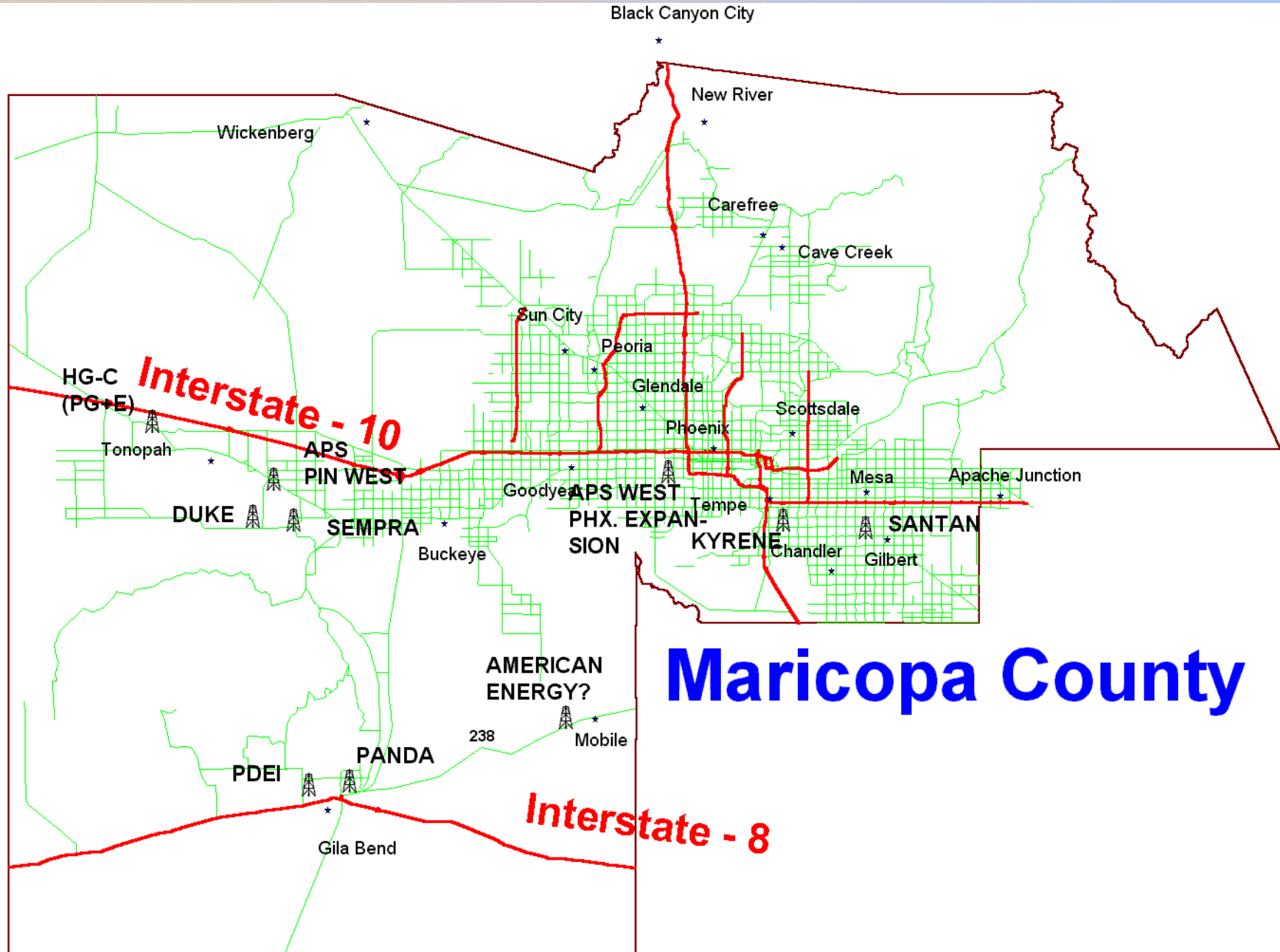
*** Estimated emissions based on permit application

Note: These emissions estimates are based on the most current information available to the Departement.

Maricopa County Environmental Services does not guarantee the accuracy of these emissions estimates.

All emissions estimates are subject to change.

MARICOPA COUNTY PROPOSED POWER PLANTS



What happens if the power goes out this summer - - regulatory and practical issues

Kevin Nielsen

Prabhat Bhargava



**The emissions inventory process - -
Why the data is requested and how it is used**

Jo Crumbaker



The Emission Inventory Process

What data is collected?

- **Actual emissions by process**

. Which pollutants?

◆ Criteria pollutants & their precursors

CO

VOC

NO_x

SO_x

PM₁₀

Lead

Ammonia

◆ HAPs

If subject to a promulgated MACT

If permit conditions limit these materials

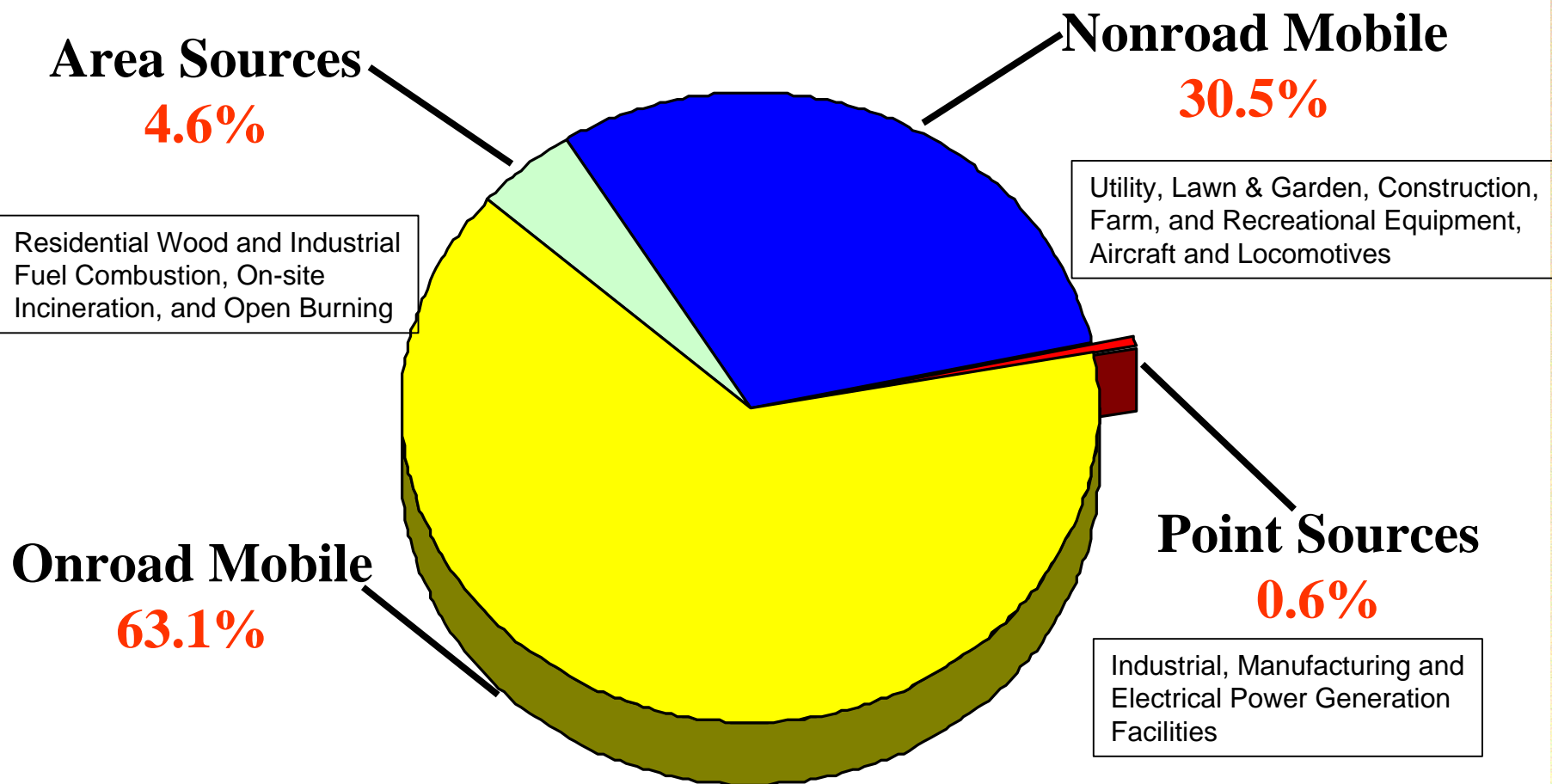
- **Operating schedule**
- **Percent emissions by quarter**
- **Control devices/stack parameters**
- **Includes instructions for identifying confidential information**
 - 1. Request information be held confidential**
 - 2. Identify specific fields**
 - 3. Provide justification to support request**
 - 4. County sends letter approving or denying request**

Why is the data requested?

- **Verify and track compliance**
- **Calculate and collect emission fees**
- **Characterize the sources contributing to air pollution**



2000 Carbon Monoxide Attainment Emissions



Hydrocarbon Emissions by Major Category on July 23, 1996

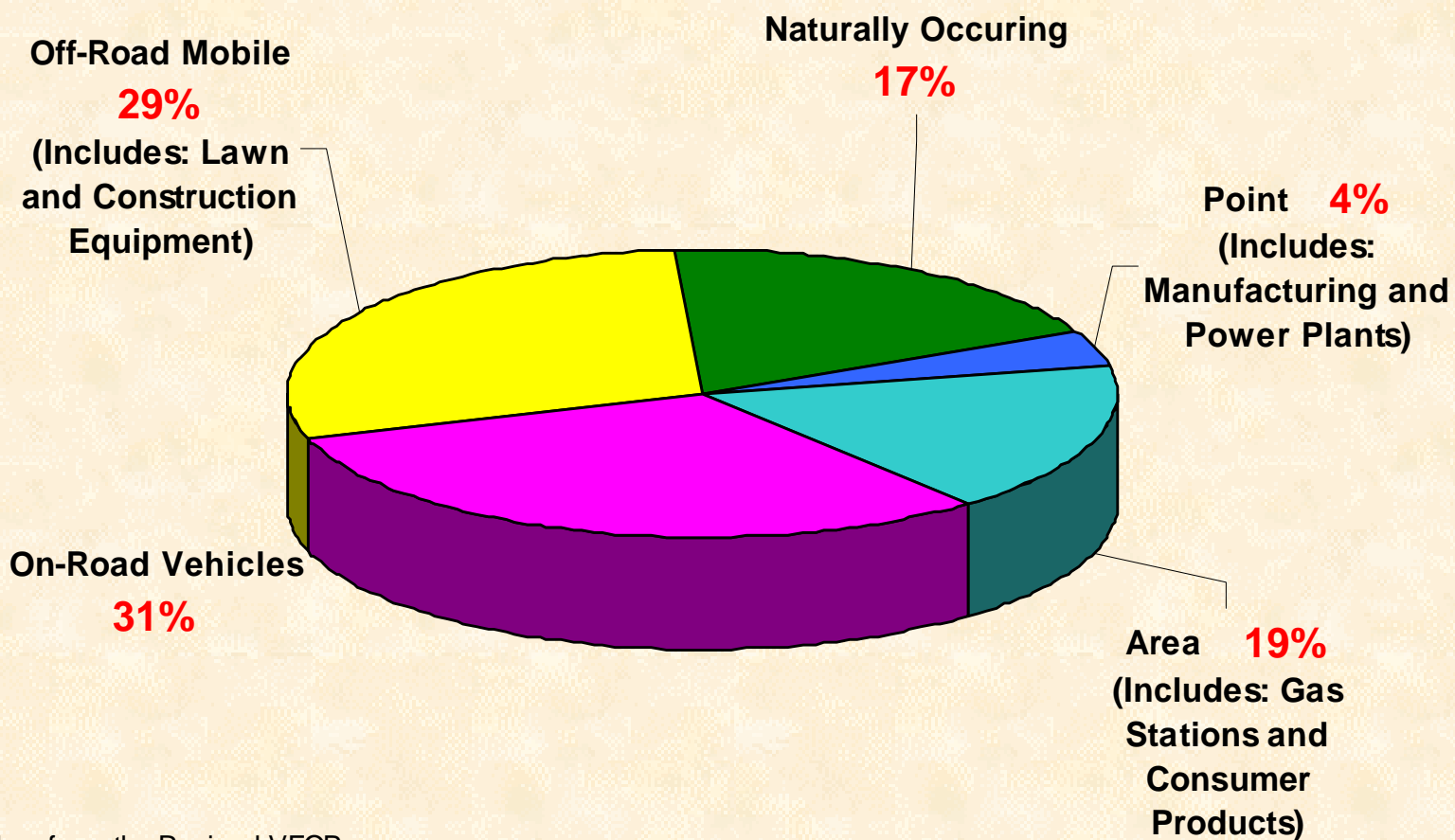


Chart taken from the Revised VEOP,
Arizona Department of Environmental Quality

Nitrogen Oxides Emissions by Major Source Category on July 23, 1996

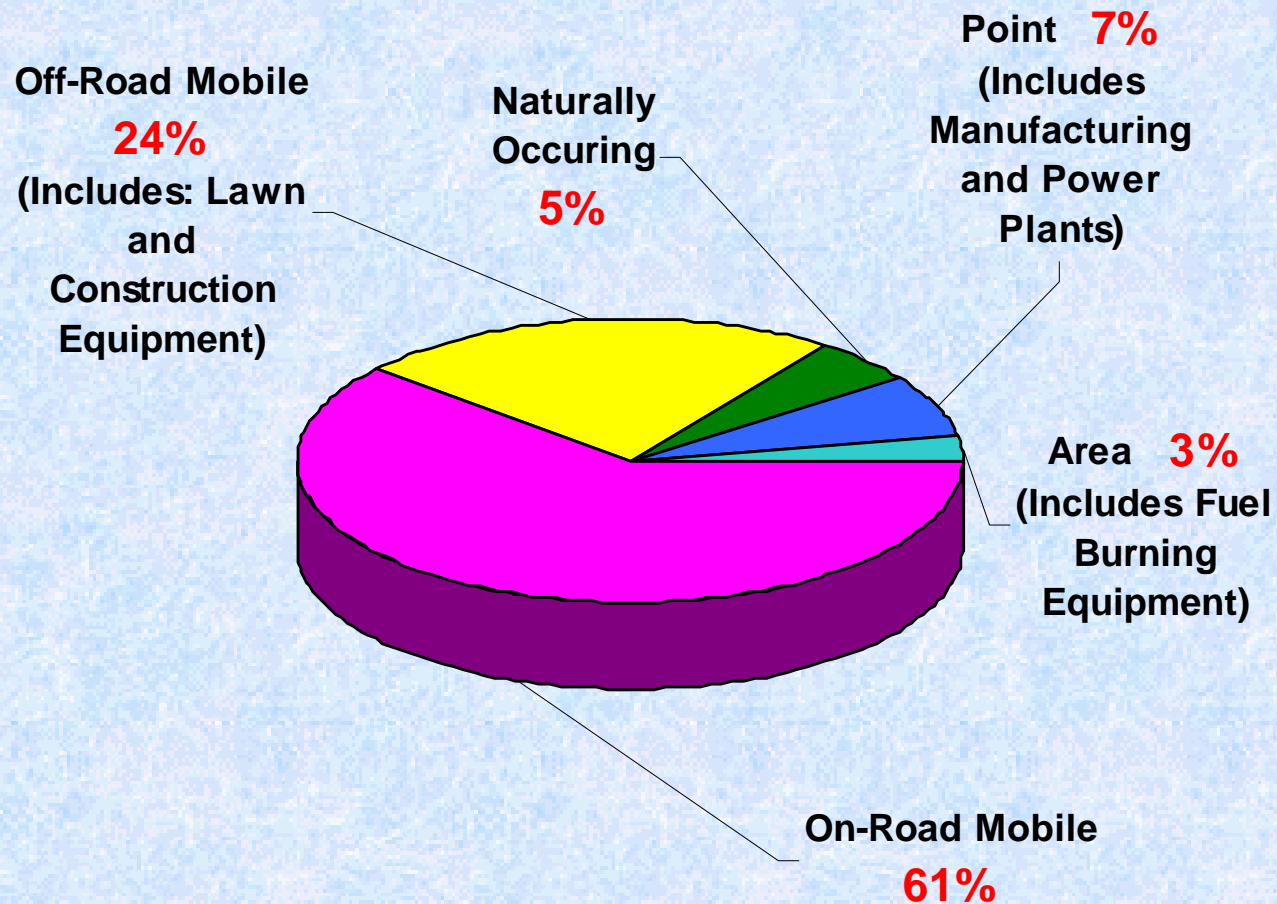
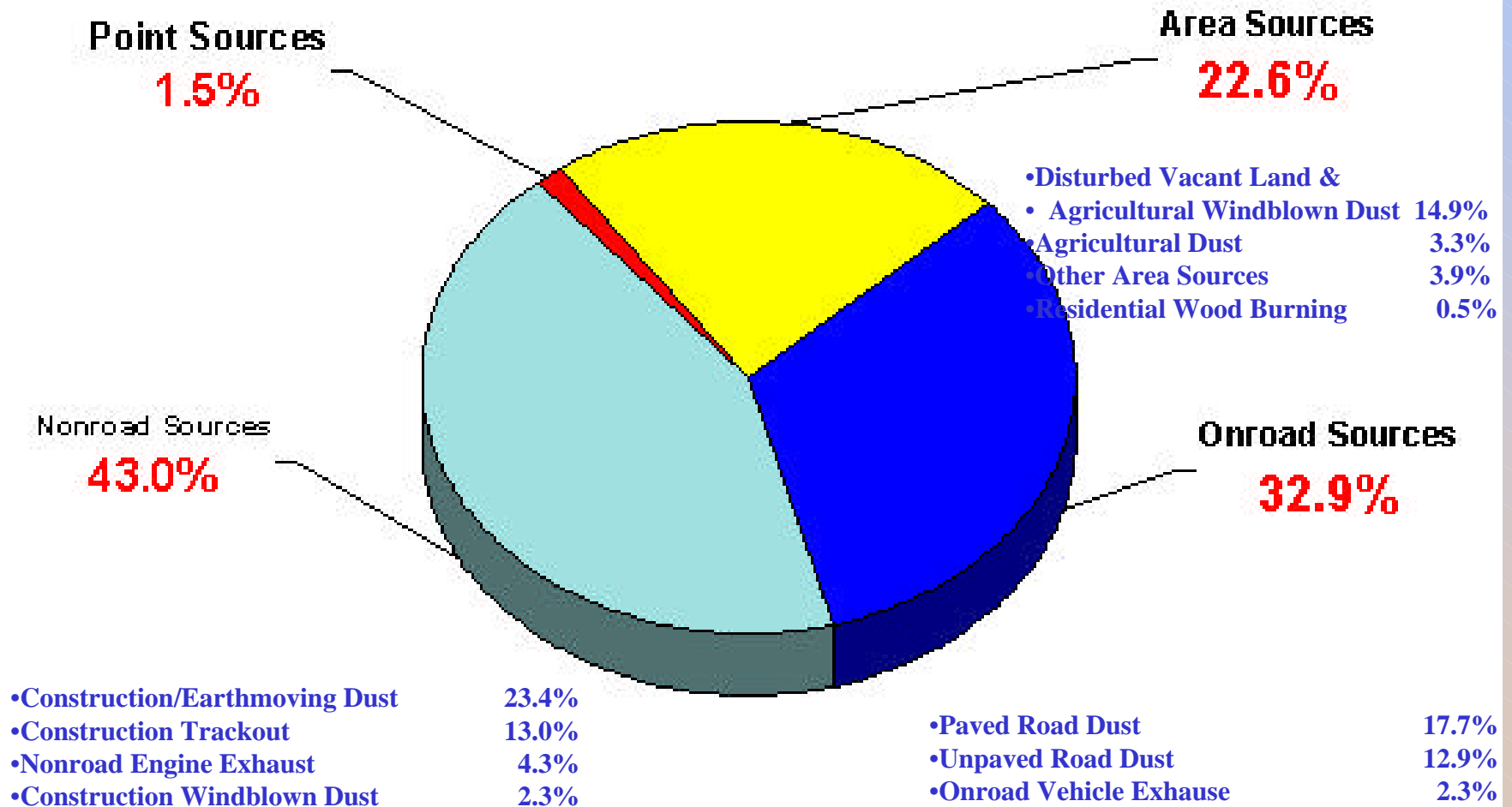


Chart taken from Revised VEOP,
Arizona Department of Environmental Quality

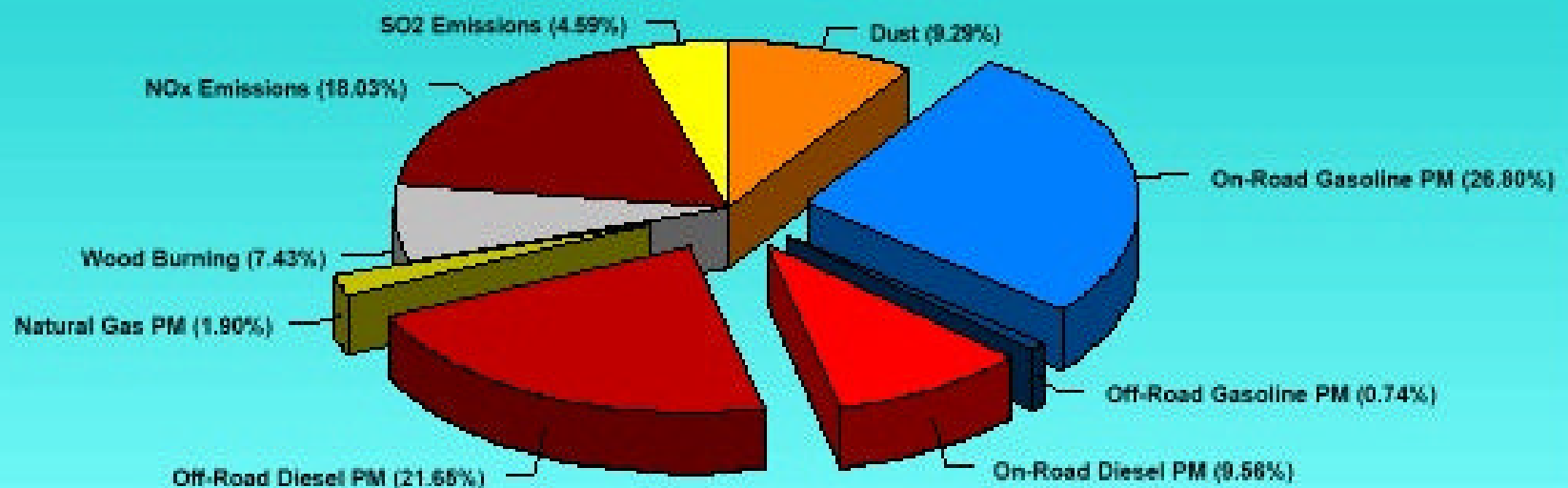
Figure ES-3
1995 REGIONAL PM-10 EMISSIONS
(Percent Total Emissions)



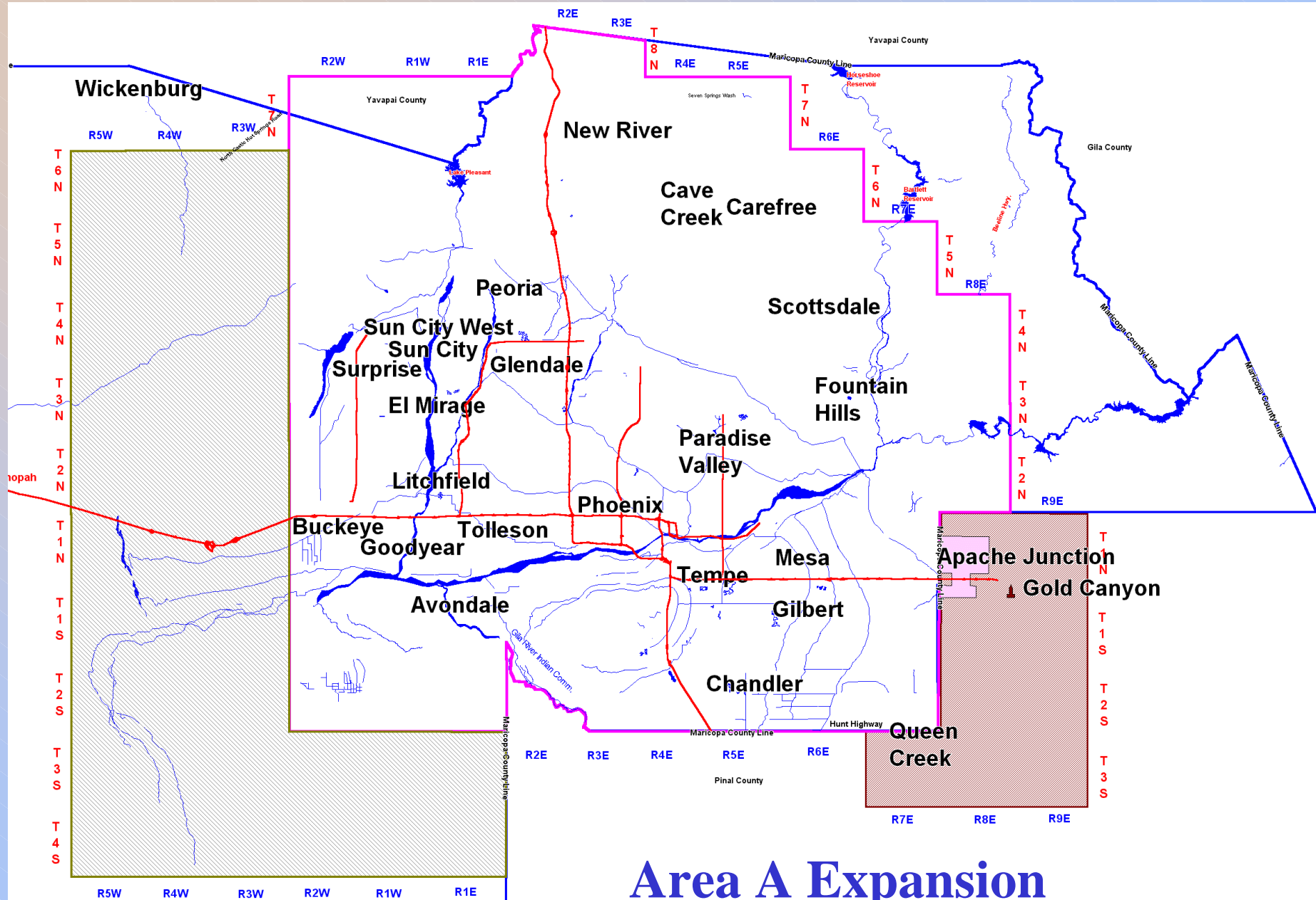
Source: Revised MAG 1999 PM-10 Plan

Source Contributions to Fall and Winter Visibility Impairment

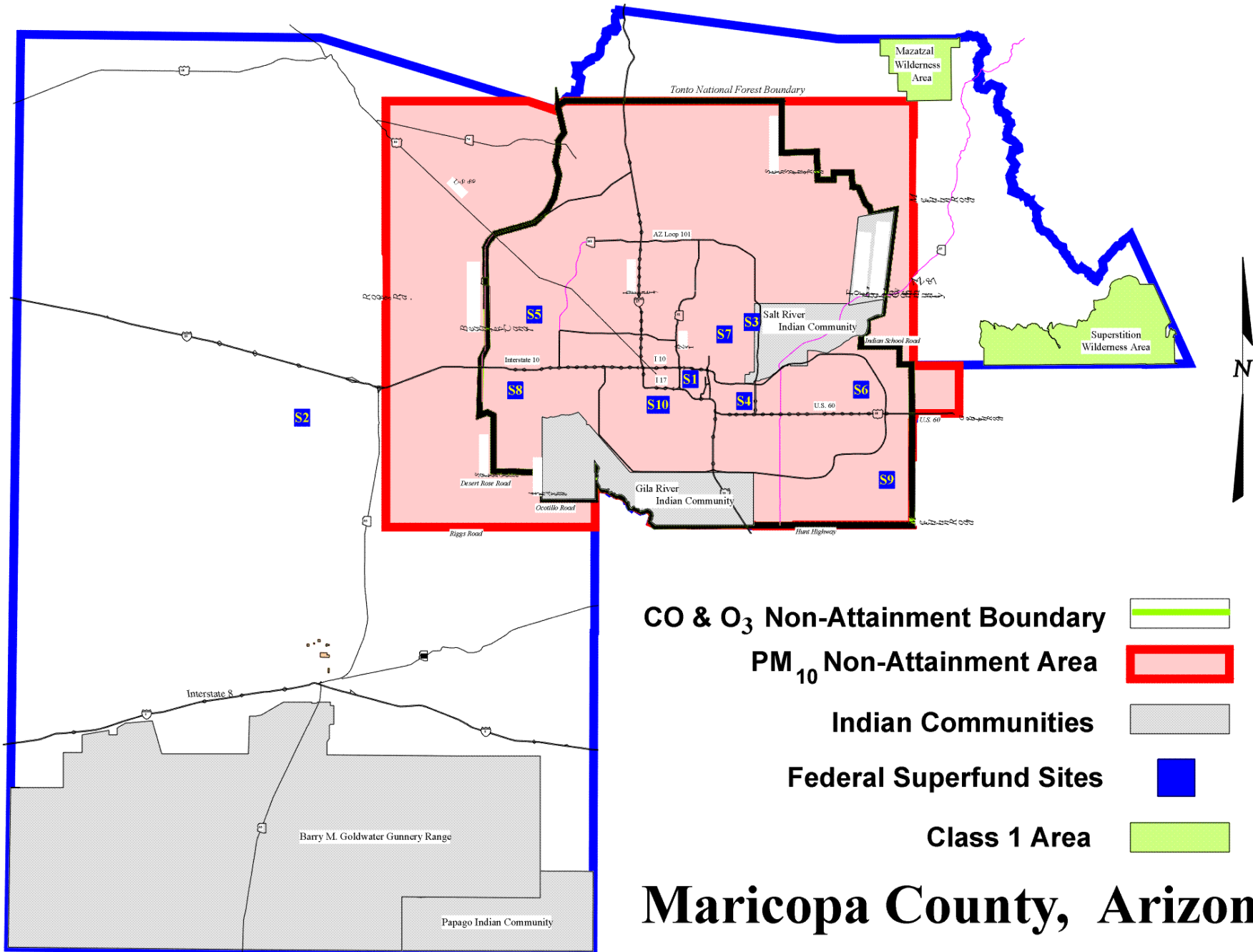
20% Worst Days-28.7 deciviews



Source: Analysis of Measurements at Super Site, Tempe and West Phoenix from December 1994 through September 1996



Area A Expansion



How is the data used?

- **State Implementation Plans**
 - ◆ **Modeling attainment demonstrations**
 - ◆ **Control Measure Analysis**
 - ◆ **Reasonable Further Progress**
- **Air quality impact analysis for siting new major facilities**
- **Identifying creditable offsets for new major NAA facilities**

- **Analyzing increment consumption for new or modified major facilities in attainment areas**
- **Certifying emission reduction credits (ERC) for the bank**
- **Regional Haze Plans**
 - WRAP's plan for the Grand Canyon**
 - Future plans for Superstition & Mazatzal Wilderness Areas**

Changes in the County's air quality program that will affect you

- **Development of uniform permit conditions for the semiconductor industry**

Karen Silberman



Development of Uniform Title V Permit Conditions for the Wood Furniture Manufacturing Industry

Kate Stockwell

MCESD Air Quality Division



I. Introduction

II. Title V Permits

A. Contain all applicable Air Quality Requirements

B. Ensure compliance through monitoring, recordkeeping, reporting and testing

III. Permitting Process in Maricopa County

A. Source proposes monitoring and recordkeeping requirements

B. Maricopa County review of permit application

C. Public Notice, EPA review, permit issuance

IV. Permit Conditions for the Woodworkers Group

- A. Standard**
- B. Industry Specific**
- C. Facility Specific**

V. Why Uniform Permit Conditions?

- Level the Playing field

VI. Other Benefits

- A. Time Efficient**
- B. Cost Effective**
- C. Good Working Relationships**
- D. Better understanding of regulatory process and regulations themselves**

VII. How does this apply to you?

Title V Permits

- ◆ **Contain all applicable Air Quality Requirements**
- ◆ **Ensure compliance through monitoring, recordkeeping, reporting and testing**

Why Uniform Permit Conditions?

- Level the Playing Field**

Time Efficiency

- ◆ **Normal Title V Permit Issuance in about 18 months**
- ◆ **Wood Furniture Manufacturers Group: 12 Permits in the Time of 1**

Other Benefits

- ◆ **Development of Good Working Relationships**
- ◆ **Better Understanding of Regulatory Process and Regulations**

How Does this Apply to You?



Development of combustion equipment rules

Renee Kongshaug



COMBUSTION RULES

**Why is Maricopa County
drafting combustion rules ??**

Revision of Rule 320 – ODORS & GASEOUS CONTAMINANTS
Revision of Rule 311 – PM FROM PROCESS INDUSTRIES

NO_x, SO_x AND CO ARE DATED IN RULE 320

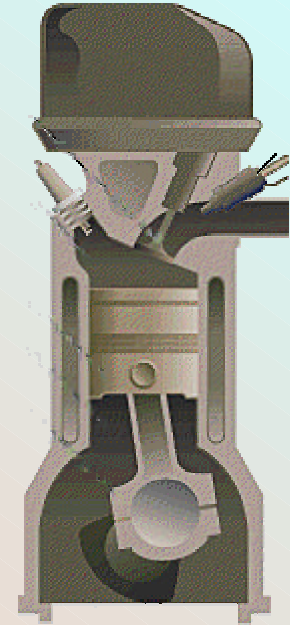
APPLICABILITY TOO NARROW IN RULE 320

PM STANDARD IN RULE 311 IS DATED

**IN RULE 311, PROCESS WEIGHT NOT ALWAYS A DIRECT
INDICATOR OF PM EMISSIONS**

I don't get it

**What's all the fuss
about those infernal
internal combustion
engines**



Industries that may be affected by Rule 324

**Operators of all stationary reciprocating internal combustion engines (ICE or RICE)
> 250 bhp**

Facilities that need large emergency backup generator units:

- Large computer centers**
- Telephone switching centers**
- Medical facilities**
- Nursing homes**
- Office buildings**
- Manufacturing facilities**
- Rock product facilities**
- Amusement parks**
- Grocery stores**
- Wastewater treatment plants**

POLLUTANT STANDARDS

(NEW VERSUS EXISTING)

NO_x - SPARK AND DIESEL

OPACITY - 20%

SULFUR - 0.05% S in fuel

CO - 4500 ppm_{dv}

Draft Rule 324 – Stationary Internal Combustion Engines(ICE)

EXEMPTIONS:

Rotary engines (turbines, jet)

Military tactical equipment

Portable engines

Engines used in agriculture

Engines used for research for testing and development
purposes+solar

Engines used for advancement of engine performance
and verification

**ER GENERATORS EXEMPT FOR REASONS BELOW
& IF OPERATE 500 HRS/ YR. FOR @ ENGINE**

Reasons:

Used for power when power fails or transmission of power fails

Used as an **ER** generator for pumping of water resulting from flood or fire or life-threatening situation.

THE FOLLOWING REASONS ARE NOT ACCEPTABLE FOR DEFINITION AS A USE FOR EMERGENCY GENERATION :

Used as standby power by the utility company due to a voluntary reduction in power by the utility company.

Used by a source to provide power to avoid peak demand charges.

Used by a source to sell power to a utility company or to sell to grid

Draft Rule 322 Power Plant Operations

FUEL BURNING EQUIPMENT

Steam generators /boiler > 100 MM Btu/hr

Combined cycle units > 100 MM Btu/hr.

Turbines > 2.9 MW

Exemptions:

Nuclear power plants operations

RICE

Turbines - fire fighting, flood control & military

Cogens./turbines used with ER fuel

**(Fuel used during natural gas curtailment or
emergency or breakdown of delivery system)**

POLLUTANT STANDARDS :

**ONLY ALLOWS NATURAL GAS BURNING EXCEPT
WHEN FIRING EMERGENCY FUEL**

**PM - 20% OPACITY & NUMERICAL VALUES FROM
NSPS**

NOX - NSPS

SULFUR IN FUEL - 0.05% S

CO - 400 PPMDV TO 1000 PPMDV

**COOLING TOWERS - 20,000 TDS, 0.001% DRIFT
RATE ON HEDE**

**DRAFT RULE 323 – FOSSIL FUEL FIRED COMBUSTION
EQUIPMENT FROM
INDUSTRIAL/COMMERCIAL/INSTITUTIONAL SOURCES**

Applicability:

BOILERS & COMBINED CYCLE UNITS > 100 MM BTU/hr.

TURBINES > 2.9 MW

COGENERATING UNITS > 10 MM BTU/hr.

PM - 20% opacity

NOX

SULFUR IN FUEL - 0.05% S

CO

NO COOLING TOWER STANDARDS

NO REQUIREMENTS FOR CEMS



Environmental Services

Ensuring a Safe
and Healthy
Environment



County Food
Protection Services
Named Best In The
Country

About Us

Air Quality

Business Services

Community Services

Environmental Health

Water & Waste
Management

AIR QUALITY

- NEW!** Air Permit Seminar
- Air Quality Status
- Air Quality Violation
- Penalty Policy
- Workshops & Draft Rules
- Permit Information & Applications
- Compliance & Enforcement
- Dust Control
- Rules & Regulations
- Emissions Inventory
- Air Quality Fees
- Asbestos
- Power Plant Status
- Title V Permits Issued
- Woodburning
- Air Quality Complaints

ABOUT US

HEALTH

- About
- F.Y.I.
- Resta
- Plan F
- Mobile
- Special Programs
- Food Worker Training
- Food Safety Links
- Health Complaints
- Crumbine Award

BUSINESS

- Maricopa County
Environmental Health
Code & Fee Schedules
- Environmental Services
Department 2000-04
Strategic Plan
- Job Listings
- Enforcement Report

WATER & WASTE

- Illegal Dumping
- Septic Systems
- Domestic Wells
- Water Or Waste
Complaints

COMMUNITY

- Small Business
Environmental
Assistance Program
- Complaints
Management
- Trip Reduction Program
- Vehicle Repair &
Retrofit
- Lawn Mower Retirement
Program

Web Address

<http://www.maricopa.gov/envsvc>

The U.S. Supreme Court upholds the eight-hour
ozone standard - - so what?

Roger Ferland

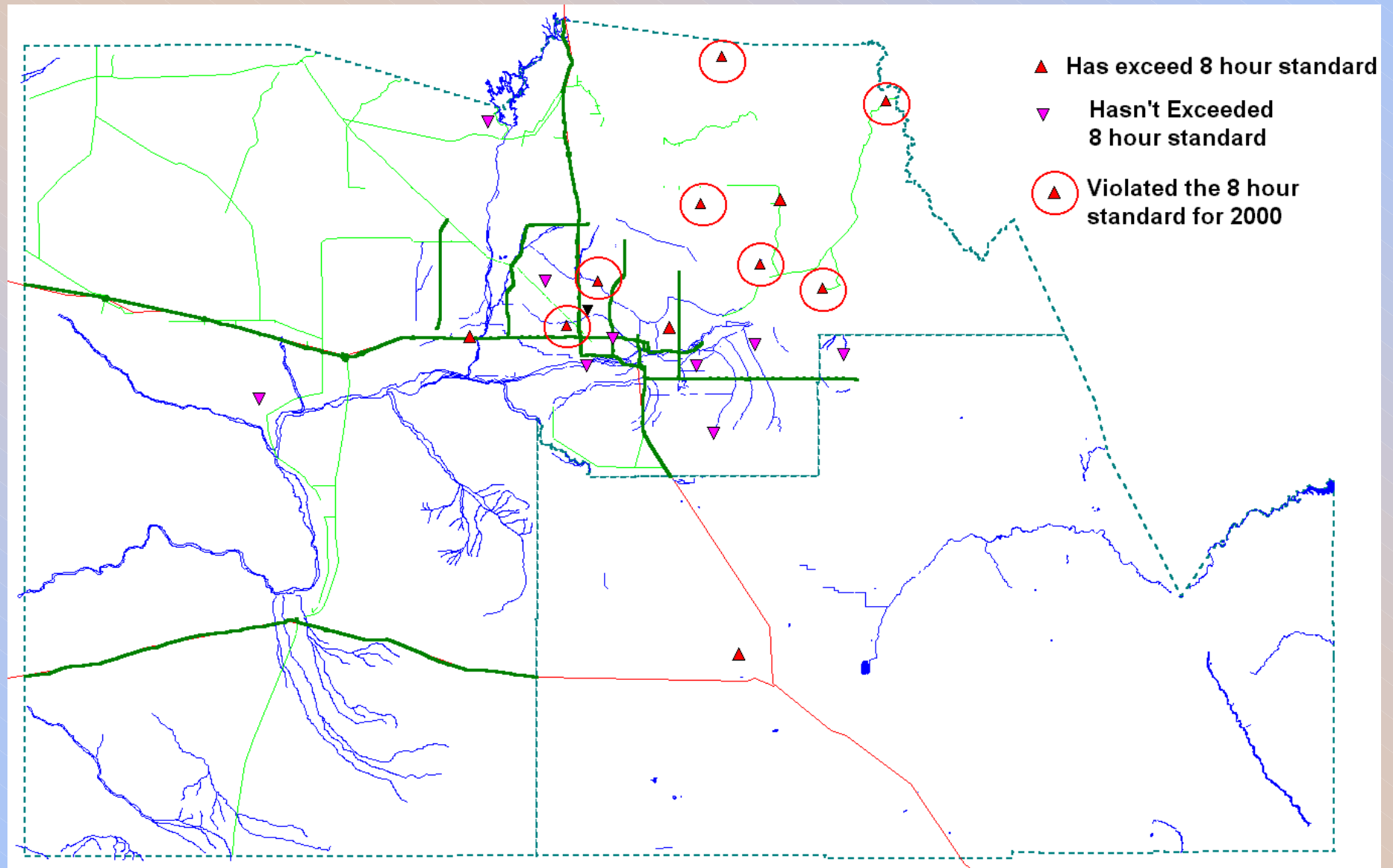


The 8-Hour Ozone Standard

Why Should I Care?

- **The Supreme Court Decision**
 - The Intel Group's Position
- **Significance**
 - Phoenix attainment status
 - Major source threshold
 - Area designations
- **Implementation Alternatives--The Role of Subpart 2**
 - Sequential
 - Replacement
 - Flexibility

Maricopa and Pinal County's Ozone Monitoring Sites



A status report on regulatory reform under

Senate Bill 1480

David Kimball



**Luncheon address
by**

Jack Broadbent

Director, Air Division,
EPA Region 9

